

NWS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

REVISED, PRINTED DATES: 09/03/2009, 08/22/2010

LOCATION: BEAVER CITY  
STREAM: SAPPA CREEK  
BASIN: REPUBLICAN 10

HSA: GID

REFERENCES:

BEAVER CITY TIMES/TRIBUNE - WEEKLY NEWSPAPER  
USGS STATION DESCRIPTION - 05/29/1967  
USGS STATION DESCRIPTION - 10/29/01  
WATER RESOURCES DATA FOR NE - USGS  
WS FORM E-19 - 03/15/1982  
WS FORM E-19 - 05/07/1991

ABBREVIATIONS:

BM - bench mark	EPA - Environmental Protection Agency
DS - downstream	IBWC - International Boundary and Water Comm.
US - upstream	MSRC - Mississippi River Commission
HW - high water	MORC - Missouri River Commission
LW - low water	NOAA - National Oceanic and Atmospheric Admin.
RB - right bank	NOS - National Ocean Survey
LB - left bank	NWS - National Weather Service
MGL - mean gulf level	TVA - Tennessee Valley Authority
MLW - mean low water	USACE - U.S. Army Corps of Engineers
MSL - mean sea level	USBR - U.S. Bureau of Reclamation
MLT - mean low tide	USGS - U.S. Geological Survey
MT - mean tide	USWB - U.S. Weather Bureau
WQ - water quality	NGVD - National Geodetic Vertical Datum
RM - reference mark	NAD - North American Datum
RP - reference point	

LOCATION IDENTIFICATION: BVSNI  
NWS INDEX NUMBER: 25-0644-8  
USGS NUMBER: 06845200

MAP OF GAGE LOCATION

LATITUDE: 40 02 45      SOURCE: USGS  
LONGITUDE: 99 53 24

LOCATION: SAPPA CREEK AT BEAVER CITY, NE  
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## BENCHMARKS

ELEVATION OF GAGE ZERO: 2157.630      VERTICAL DATUM: NGVD 1929  
LEVELING AGENCY AND DATE: Level      CHECKBAR: 23.000  
RATING AGENCY: USGS

BENCHMARK	DESCRIPTION	GAGE ZERO	DATUM
RM1	DESTROYED.		
RM2	A STANDARD BRONZE TABLET IN A CONCRETE POST 8 FT UPSTREAM FROM UPSTREAM SIDE OF WELL, AND IN LINE WITH STREAMWARD SIDE OF GAGE WELL. DID NOT FIND IN 2002. GONE.	17.413	2175.043
RM3	A NEBRASKA DEPT. OF ROADS BRONZE TABLET ON THE LEFT UPSTREAM BRIDGE RAIL. FOUND IN 2002.	24.762	2182.392
RM4	A BRONZE USGS TABLET LOCATED AT THE UPSTREAM STREAMWARD CORNER OF THE HOUSE PAD. GONE.	22.065	2179.695

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## GAGES

DCP

TELEM

NESS ID:  
OWNER:  
REPORT TIME:  
INTERVAL:

TYPE OF TELEMETRY: dedicated  
OWNER: State DWR  
PHONE NUMBER:  
INTERVAL:  
PAYOR/COST OF LINE: Unk / \$

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	GAGE LOCATION/REMARKS
chain	USGS	USGS	05/18/1937	09/11/1945	CHAIN GAGE ATTACHED TO DOWNSTREAM GUARDRAIL OF BRIDGE ON US HIGHWAY 283.
wireweight	USGS	USGS	09/11/1945	09/01/1972	THIS GAGE REPLACED CHAIN GAGE ON US HIGHWAY 283 BRIDGE. A-35 RECORDER INSTALLED IN STILLING WELL ON RIGHT BANK 200 FT DOWNSTREAM OF BRIDGE.
wireweight	USGS	NWS	09/01/1972	06/01/1990	USGS DISCONTINUED STATION AS A RECORDING SITE. GAGE LEFT TO NWS OBSERVER TO CONTINUE REPORTING HIGH WATER. GAGE STOLEN DURING 1990.
bubble	USGS	USGS	07/01/2001	09/01/2002	DCP WAS INSTALLED BRIEFLY, BUT REMOVED BECAUSE ANOTHER DCP WAS JUST A FEW MILES UPSTREAM.
wireweight	USGS	NWS	07/01/2001		WIRE WEIGHT GAGE ATTACHED TO THE CENTER OF THE DOWNSTREAM GUARDRAIL OVER THE SAND POINT ENCASED IN ORIFICE.

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# HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
USGS WRD - NEBRASKA	05/18/1937	09/01/1972
USGS WRD - NEBRASKA	10/01/2001	09/01/2002

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
chain	USGS	05/18/1937	09/11/1945
wireweight	USGS	09/11/1945	09/01/1972
wireweight	USGS	09/01/1972	06/01/1990
bubble	USGS	07/01/2001	09/01/2002
wireweight	USGS	07/01/2001	

ZERO ELEVATION	STARTING DATE
2157.190	10/01/1936
2154.630	09/01/1945
2157.630	07/01/2001

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## CRESTS

FLOOD STAGE: 16.00 ACTION STAGE: 14.00 BANKFULL STAGE: 0.00  
 FLOOD FLOW: 1400 ACTION FLOW: 940

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
06/03/1937	UNDEF	17.00	3900			X	
07/16/1938	UNDEF	12.98	1380			X	
05/26/1939	UNDEF	14.82	1600			X	
07/28/1940	UNDEF	15.30	2450			X	
06/10/1941	UNDEF	15.80	2910			X	
06/13/1942	UNDEF	14.30	1600			X	
07/17/1944	UNDEF	18.70	5500			X	
07/02/1946	UNDEF	16.31	1570			X	
06/22/1947	UNDEF	19.16	3600			X	
06/12/1949	UNDEF	17.04	1900			X	
08/06/1950	UNDEF	19.50	3990			X	
07/16/1951	UNDEF	17.36	2170			X	
06/16/1957	UNDEF	17.78	2130			X	
03/23/1960	UNDEF	20.03	5690			X	
08/12/1963	UNDEF	16.52	1610			X	
06/14/1965	UNDEF	18.58	3280			X	
06/23/1966	UNDEF	20.85	9500	X		X	RECORD FLOOD.
06/15/1967	UNDEF	18.70	3450			X	
08/10/1968	UNDEF	8.85	360			X	
10/18/1968	UNDEF	9.47	427			X	
09/17/1970	UNDEF	10.88	594			X	
04/27/1971	UNDEF	7.75	192			X	
09/22/2001	UNDEF	1.13	9				RECORDS FOR 2001 BEGAN AFTER 07/01.
02/16/2002	UNDEF	1.61	0			X	Maximum peak stage for the year due to backwater from ice.
05/11/2002	UNDEF	1.39	16				

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# LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
05/18/1937	0.00	0	NO FLOW AT TIMES DURING MANY YEARS
07/14/2002		0	Lowest daily mean for the year.

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CONDITIONS AFFECTING FLOW

MILES ABOVE MOUTH: 42.6      DRAINAGE AREA: 1481.0      POOL STAGE: 0.0

STREAM BED: COMPOSED OF FINE SAND, GRAVEL & SILT THAT SHIFT CONSTANTLY.

REACH: VICINITY OF GAGE.

REGULATION: NONE.

DIVERSION: SOME DIVERSION FOR IRRIGATION UPSTREAM.

WINTER: CHANNEL SUBJECT TO FREEZING AND WILL AFFECT STAGE-DISCHARGE RELATIONSHIPS.

TOPOGRAPHY: CHANNEL IS TRAPEZOIDAL IN SHAPE AND NARROW IN WIDTH. IT IS STRAIGHT FOR SEVERAL HUNDRED FEET AND BENDS TO THE LEFT ABOUT 100 FT. BELOW. THE BANKS ARE HIGH AND OVERGROWN WITH VEGETATION.

REMARKS: CHANNEL IS SUBJECT TO FILL AND SCOUR.

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STAGE	AREAS AFFECTED
16.00	AT FLOOD STAGE THE LEFT BANK BEGINS TO OVERFLOW.
18.00	FLOW CONTINUES INTO AGRICULTURAL AREAS BUT NO HOMES ARE THREATENING. THE RIGHT BANK IS NOT SUBJECT TO OVERFLOW.
20.00	AT VERY HIGH FLOWS THE LOWLANDS ON THE OUTSIDE OF BEAVER CITY FLOOD FROM THE COMBINATION OF OVERFLOWS FROM THE SAPPA AND BEAVER CREEKS. SUBSTANTIAL LOWLAND FLOODING OF FARM AND PASTURE LAND WILL OCCUR. COUNTY ROADS ADJACENT TO RIVER WILL FLOOD. NEITHER THE HIGHWAY NOR THE HOMES NEAR THE GAGE SITE WILL FLOOD AT THIS LEVEL.

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# RIVER STAGE DATA

	21-		
	-----	20.85	06/23/1966
	-----		
20.00 - AT VERY HIGH FLOWS THE LOWLANDS ON THE OUTSIDE OF BEAVER CITY FLOOD FROM THE	-----	20.03	03/23/1960
COMBINATION OF OVERFLOWS FROM THE SAPPA AND BEAVER CREEKS. SUBSTANTIAL LOWLAND	-----	19.50	08/06/1950
FLOODING OF FARM AND PASTURE LAND WILL OCCUR. COUNTY ROADS ADJACEN TO RIVER WILL	19-	19.16	06/22/1947
FLOOD. NIETHER THE HIGWAY NOR THE HOMES NEAR THE GAGE SITE WILL FLOOD AT THIS LEVEL.	-----	18.70	06/15/1967
	-----	18.58	06/14/1965
18.00 - FLOW CONTINUES INTO AGRICULTURAL AREAS BUT NO HOMES ARE THREATENING. THE RIGHT BANK	-----		
IS NOT SUBJECT TO OVERFLOW.	-----	17.78	06/16/1957
	17-	17.36	07/16/1951
	-----	17.00	06/03/1937
	-----	16.52	08/12/1963
16.00 - AT FLOOD STAGE THE LEFT BANK BEGINS TO OVERFLOW.	-----		
	-----	15.80	06/10/1941
	15-	15.30	07/28/1940
	-----	14.82	05/26/1939
	-----	14.30	06/13/1942
	-----		
	13-		
	-----	12.98	07/16/1938
	-----		
	-----		
	11-		
	-----	10.88	09/17/1970
	-----		
	-----	9.47	10/18/1968
	9-		
	-----	8.85	08/10/1968
	-----		
	-----	7.75	04/27/1971
	7-		
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	-----		
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	5-		
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	-----		
	3-		
	-----		
	-----		
	-----	1.61	02/16/2002
	1-	1.39	05/11/2002

REACH: VICINITY OF GAGE.

ELEVATION ZERO: 2157.63

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# CONTACTS

SQ	CONTACT/REMARKS	PHONE
1	Rodger Powell	308-962-6758

OFFICE PHONE: 308-268-5088 Cell Phone:  
308-962-6758 Rodger is the Furnas County  
Emergency Manager and he can take river  
readings.

LOCATION: SAPPY CREEK AT BEAVER CITY, NE  
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